# Advanced Diploma of Network Security (ICA60211)

The recommended Diploma study plan has the following key features:

* The recommended study plan will take a new student 18 - 24 months to complete.
* There is a focus on latest network technologies including Microsoft, CISCO Security and Aruba Wireless
* There is a focus on Industry certifications and students will have the opportunity to gain a number of Industry certificates as well as the TAFE one.
* Student will be able to obtain a number of Skill sets without having to complete the whole certificate.

## Underpinning Skills and Knowledge

This is **not** an entry level course. There is an amount of assumed skills and knowledge prior to commence this course. To successfully enter at this level a student needs to have either:

* Completed the Diploma of Information Technology Networking, or
* Other study equivalent to it, or
* Have work experience and knowledge equivalent to it.
* It is expected students be at level equivalent to the CCENT, CCNA and other various Microsoft Certifications.

## TAFE SA Recommended Study Plan for Full-Time Students

Students can either elect to complete the Diploma of Information, Digital Media and Technology before commencing the Advanced Diploma or can elect to only do the underpinning skills required.

The following table shows the recommended study plan for the Advanced Diploma of Network Security only using underpinning skills. Each stage is one Semester (or 6 months) in length for Full-Time students\*.

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Stage 1 | | Stage 2 | | Stage 3 | | Stage 4 | |
| Semester 1 | | Semester 2 | | Semester 1 | | Semester 2 | |
| Term 1 | **Term 2** | **Term 1** | **Term 2** | **Term 1** | **Term 2** | **Term 1** | **Term 2** |
| 3WNF†  3WSF†  4IVM† | 4WAD†  4LXA† | 4WNI†  5LXN† | 5CRS†  5CNW†  5EVC† | 6EWS | 6EWD |  |  |
|  | 4CIN† | |  | 6DIS  6CNS  6SUS | |  | |
| Skill Sets | | | | | | | |
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| Exit Qualifications | | | | | | | |
| Exit with the *Advanced Diploma of Network Security* | | | | | | |  |

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| Stage 1 | | | Stage 2 | | | Stage 3 | | | Stage 4 | |
| Semester 1 | | Semester 2 | | | Semester 1 | | | Semester 2 | | |
| Term 1 | **Term 2** | **Term 1** | | **Term 2** | **Term 1** | | **Term 2** | **Term 1** | | **Term 2** |
| 3WHS^ †  3SWP^ †  3CUD^ †  3ITE † | 3WNF†  3WSF†  3PAC† | 4WAD†  4LXA† | | 4WNI†  5LXN† | 5ISV†  5CNW†  5CRS† | | 5EVC†  5ECS†  **Elective** | 6EWS | | 6EWD |
| 4IVM† | | 4CIN† | | |  | | | 6DIS  6CNS  6SUS | | |
| Skill Sets | | | | | | | | | | |
| Gain the   * *Hardware Technicians Skill Set* | | Gain the   * *Certified Networking Technician Skill Set* * *Certified Server Administrator Skill Set* * *Certified Technology Specialist - Graphical User Interfaces Skill Set* * *System and Network Plus Technician Skill Set* | | | Gain the   * *Virtualisation Specialist Skill Set* * *Certified Network Associate Technology Specialist Skill Set* | | |  | | |
| Exit Qualifications | | | | | | | | | | |
| Exit with *Certificate III in Information, Digital Media and Technology* | | Exit with the ***Certificate IV in Information Technology Networking*** | | | Exit with the **Diploma of Information Technology Networking** | | | Exit with the **Advanced Diploma of Network Security** | | |

**Please Note: This program structure is subject to change.**

**Legend:**

\* The length of time for Part-Time students will depend on the number of subjects studied in each semester.

^ These subjects are delivered in an external/online mode. Some other subjects maybe available in an external/online or blended delivery mode please check this with your lecturer at time of registration.

† Under pinning skills not required for Advanced Diploma qualification. (NOTE: 3 competencies from Diploma subjects are required).

**How subjects are delivered and their duration will be dependent on campus specific scheduling issues. Electives will also be campus specific.**

**Please contact your local TAFE for specific course schedules.**

## Advanced Diploma of Network Security (ICA60211)

**To receive the Award students need to complete the following subjects**

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| Subject | | National Code | Unit Name | | | Pre- Requisite |
| CISCO Technologies | | | | | | |
| 6CNS | | **CISCO Network Security** | | | | |
| ICANWK601A | Design and implement a security system | | | CCENT or proof of equivalent knowledge |
| ICANWK608A | Configure network devices for a secure network infrastructure | | |
| Wireless Technologies | | | | | | |
| 6EWD | | **Enterprise Wireless Design** | | | | |
| ICANWK605A | Design and configure secure integrated wireless systems | | | 6EWS, CCENT or equivalent knowledge, 4WNI or proof of equivalent knowledge |
| ICANWK502A | Implement security encryption technologies | | |
| ICAICT609A | Lead the evaluation and implementation of current industry-specific technologies | | |
| 6EWS | | **Enterprise Wireless Security** | | | | |
| ICANWK607A | Design and implement wireless network security | | | CCENT or equivalent knowledge, 4WNI or proof of equivalent knowledge |
| Network Security | | | | | | |
| 6DIS | **Design and Implement Network Security** | | | |  | |
| ICANWK602A | | | Plan, configure and test advanced server based security |  | |
| ICANWK509A | | | Design and implement a security perimeter for ICT networks |
| Network Sustainability | | | | | | |
| 6SUS | **Network Sustainability** | | | |  | |
| ICTSUS6233A | | | Integrate sustainability in ICT planning and design projects |  | |
| ICANWK616A | | | Manage security privacy and compliance of cloud service deployment |

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| Other information | |
|  | To be eligible for the Advanced Diploma students will also need to have completed an additional two competencies at the Diploma level. If a student uses the suggested study plan they can obtain these by:   * 5CNW and 5ISV * 5LNX * 5EVC * 5CRS   Please speak to your local campus for more information. |

## Usual Pathway pre-requisites for people entering at this level

It is usual for students undertaking this course to have completed the **Diploma of Information Technology Networking**. A student starting at this level will need to have completed or demonstrated knowledge in the following subjects. These are linked to vendor specific skills and you cannot undertake vendor training at the higher level without having completed the lower level.

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| Subject | National Code | Unit Name | Pre- Requisite |
| Linux Technologies | | | |
| 5LXN | **Linux Network** | | |
| ICANWK504A | Design and implement an integrated server solution | 4LXA or proof of equivalent knowledge |
| ICANWK505A | Design, build and test a network server |
| CISCO Technologies | | | |
| 5CRS | **CISCO Routing and Switching Essentials (Cisco 2)** | | |
| ICTTEN6206A | Produce an ICT network architecture design | 4CIN or proof of equivalent knowledge |
| ICANWK507A | Install, operate and troubleshoot medium enterprise routers |
| ICANWK508A | Install, operate and troubleshoot medium enterprise switches |
| Virtualization Technologies | | | |
| 5EVC | **Enterprise Virtual Computing** | | |
| ICANWK525B | Configure an enterprise virtual computing environment | 4IVM, 4WAD, MS 70-640  and 642, or proof of equivalent knowledge |
| ICANWK526A | Install an enterprise virtual computing environment |
| ICANWK527B | Manage an enterprise virtual computing environment |

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| 5ISV | Implement Server Virtualisation | |  |
| ICTSUS5187A | Implement server virtualisation for a sustainable ICT system | 4IVM, 4WAD, 4WNI, MS  70-640 and 642, or proof of equivalent knowledge |

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| Microsoft Technologies | | | | | | | |
| 5CNW | **Complex Networks** | | | |  | | |
| ICANWK529A | | | Install and manage complex ICT networks | 4IVM, 4WAD, 4WNI, MS  70-640 and 642, or proof of equivalent knowledge | | |
| Windows Sever 2012 Technologies | | | | | | |
| 4WAD | | **Windows Active Directory** | | | | |
| ICTTEN5201A | Install, configure and test a server | | | 3WSF, MTA 98-365, or proof of equivalent knowledge |
| ICANWK401A | Install and manage a server | | |
| ICAICT401A | Determine and confirm client business requirements | | |
| 4WNI | | **Windows Networking Infrastructure** | | | | |
| ICANWK403A | Manage network and data integrity | | | 3WSF, MTA 98-365, or proof of equivalent knowledge |
| ICANWK406A | Install, configure and test network security | | |
| Linux Technologies | | | | | | |
| 4LXA | | **Linux Administration** | | | | |
| ICANWK408A | Configure desktop environment | | | 3ITE or proof of equivalent knowledge |
| ICANWK411A | Deploy software to networked computers | | |
| CISCO Technologies | | | | | | |
| 4CIN | | **CISCO Introduction to Networks** | | | | |
| ICANWK404A | Install, operate and troubleshoot a small enterprise branch network | | | 3WNF, MTA 98-366, or proof of equivalent knowledge |
| ICTTEN4199A | Install, configure and test a router | | |
| ICTTEN4198A | Install, configure and test an internet protocol network | | |
| ICASAS426A | Locate and troubleshoot IT equipment, system and software faults | | |

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| Virtualization Technologies | | | |
| 4IVM | **Install Virtual Machines** | | |
| ICANWK402A | Install and configure virtual machines for sustainable ICT | 3ITE or proof of equivalent knowledge |
| Microsoft Technologies | | | |

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| 3WNF | Windows Networking Fundamentals | | |
| ICANWK305A | Install and manage network protocols | 3ITE |
| ICASAS307A | Install, configure and secure a small office home office network |
| ICANWK405A | Build a small wireless local area network |
| 3WSF | **Windows Server Fundamental** | | |
| ICANWK304A | Administer network peripherals | 3ITE |
| ICANWK303A | Configure and administer a network operating system |

## Subject Descriptions

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| Subject | Description |
| 6CNS | This subject covers the Cisco Networking Academy CCNA Security subject which provides a next step for individuals who want to enhance their CCNA-level skill set and help meet the growing demand for network security professionals. The curriculum provides an introduction to the core security concepts and skills needed for the installation, troubleshooting, and monitoring of network devices to maintain the integrity, confidentiality, and availability of data and devices. |
| 6DIS | Students use their skills and knowledge gained in Microsoft technologies, Cisco and Linux to implement a project that includes advanced server security using secure authentication and network services on a network server. |
| 6EWD | This subject will introduce students to the skills and knowledge which covers WLAN discovery techniques, Wireless Intrusions Systems, Enterprise/SMB/SOHO/Public-Network Security design models, coverage of all 802.1X/EAP types used in WLANs, 802.11 design architectures. This subject will provide hands on approach using enterprise wireless equipment. |
| 6EWS | This subject will introduce students to the skills and knowledge required to mitigate security threats to a wireless local area network (WLAN) by implementing security standards and policies |
| 6SUS | This subject will introduce students to sustainability issues of network implementations in the cloud. It will also examine how to manage security privacy and compliance of cloud service deployment |